

What is claimed is:

1. A composite sensor for a door, comprising:

a radio-wave transmitter-receiver section for forming a radio-wave
5 detection zone for detecting an object at a location remote from said door; and

a light emitter-receiver section for forming an optical detection zone for
detecting an object at a location along and closer to said door;

said light emitter-receiver section including optical detection zone
modifying means which increases or decreases a depth dimension of said optical
10 detection zone in a direction perpendicular to said door.

2. The composite sensor according to Claim 1 wherein said optical
detection zone modifying means comprises reflecting means for reflecting light
beams emitted by said light emitter-receiver section, and light-collecting means
15 for collecting light beams to be received by said light emitter-receiver section,
said reflecting means and said light-collecting means collaborating to increase or
decrease the depth dimension of said optical detection zone.

3. A composite sensor for a door for forming a first detection zone for
20 detecting an object with a radio wave at a location remote from said door, and a
second detection zone for detecting an object with light beams at a location
along and closer to said door;

said sensor including invalidating means for making a result of detection
in said second detection zone invalid when said door is in a closed position
25 thereof.

4. A composite sensor for a door for forming a first detection zone for
detecting an object with a radio wave at a location remote from said door, and a
second detection zone for detecting an object with light beams at a location
30 along and closer to said door;

said sensor including validating means for making a result of detection in said second detection zone valid when an object is detected in said first detection zone.

5 5. The composite sensor according to Claim 4 wherein said validating means makes said result of detection in said second detection zone valid when an object is detected in said first detection zone continuously for a first time period.

10 6. The composite sensor according to Claim 4 wherein said validating means makes said result of detection in said second detection zone valid for a second time period when an object is detected in said first detection zone.

7. A composite sensor for a door for forming a first detection zone for
15 detecting an object with a radio wave at a location remote from said door, and a second detection zone for detecting an object with light beams at a location along and closer to said door;

said sensor including validating means for making a result of detection in said second detection zone valid when an object is detected in said second
20 detection zone continuously for a third time period.

8. A composite sensor for a door for forming a first detection zone for
detecting an object with a radio wave at a location remote from said door, and a second detection zone for detecting an object with light beams at a location
25 along and closer to said door;

said sensor including invalidating means for making a result of detection in said second detection zone invalid when an environmental condition around said door affects said result of detection in said second detection zone.